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Le but de cette étude était d'évaluer les habiletés de communication en français de la 7e à la 11e année, des élèves de la CEPGM provenant de trois programmes d'immersion différents : au primaire, au premier cycle du secondaire et en 7e année. De plus, on a comparé ces groupes à un groupe témoin francophone. On en est arrivé aux conclusions suivantes : de la 7e à la 11e année, les élèves francophones ont obtenu des résultats nettement supérieurs à ceux des élèves des trois programmes d'immersion dans presque tous les tests; en général, l'écart de rendement augmente de la 7e à la 11e année, à tous les niveaux; l'écart entre les élèves francophones et les élèves provenant de l'immersion de 7e année était plus grand que l'écart entre les élèves francophones et ceux des autres programmes d'immersion.

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A LONGITUDINAL EVALUATION OF THREE IMMERSION PROGRAMS GRADES 7 - 11

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Résumé

Le but de cette étude était d'évaluer le développement de l'habileté linguistique en français de la 7e à la 11e années, des élèves provenant de trois programmes d'immersion différents: (1) immersion primaire, (2) immersion du 1er cycle secondaire et (3) immersion de 7e année. Un groupe-témoin français a été inclus pour fins de comparaison.

L'habileté linguistique en français a été évaluée en administrant les tests suivants: (1) un test de compréhension auditive, (2) un test de lecture cloze, (3) un test de composition et (4) un test de production orale. La relation entre le rendement des élèves en immersion et celui des élèves francophones a été mesurée en utilisant les notes des élèves francophones comme base de calcul.

On est arrivé aux conclusions suivantes:

(1) De la 7e à la 11e années, les élèves francophones ont obtenu des résultats nettement supérieurs à ceux des élèves des trois programmes d'immersion sur tous les tests, sauf dans le cas du test de compréhension auditive où il n'y avait pas de différence significative entre les élèves de l'immersion primaire et les élèves francophones, en 9e et en 11e années.

(2) De la 7e année à la 11e année, l'écart de rendement entre les élèves francophones et ceux des trois programmes d'immersion a augmenté sauf dans les deux cas suivants: (i) la performance des élèves de l'immersion primaire au test de compréhension auditive et (ii) la performance des élèves du 1er cycle secondaire au test de production orale.

(3) A tous les niveaux, l'écart entre les élèves francophones et les élèves provenant de l'immersion de 7e année était plus grand que l'écart entre les élèves francophones et ceux des deux autres programmes d'immersion.

Les résultats de cette étude sont discutés en fonction d'un développement insuffisant de l'habileté linguistique en français de la 7e à la 11e années. Deux facteurs qui pourraient en être la cause sont proposés: un ralentissement naturel dans l'acquisition d'une langue seconde et le manque d'intégration entre l'enseignement de la langue et l'enseignement des matières en français.

Summary

The purpose of this study was to assess the development of French language skills of students in grades 7 - 11 who had attended one of the following three French immersion programs: (1) Early Immersion, (2) Cycle I Immersion and (3) Grade 7 Immersion. A native French control group was included for comparison purposes.

Linguistic proficiency in French was measured by the following tests: (1) a listening comprehension test, (2) a cloze test, (3) a composition test and (4) an oral production test. The relationship between the performance of the immersion students and that of the native speakers across the grades was measured by using the scores of the French controls as a baseline.

The results indicate that (1) The performance of the students in the three immersion groups was significantly lower than that of the French controls on all tests and at all grade levels except for the listening comprehension test where there was no significant difference between the Early Immersion group and the French controls in grades 9 and 11. (2) The difference between the performance of the French controls and that of the students in the three immersion programs increased from grade 7 to grade 11 except in the following two cases (i) the performance of the Early Immersion students on the listening comprehension test and (ii) the performance of the Cycle I Immersion students on the oral production test. (3) At all grade levels, the difference between the Grade 7 Immersion students and the French controls

was more pronounced than the difference between the French controls and the students in the other two immersion programs.

The findings of this study are discussed in terms of an insufficient growth in linguistic proficiency across the grades. A natural attrition in the rate of language acquisition, as well as a lack of integration of language instruction into heavily loaded content courses are given as possible factors to explain the absence of noticeable linguistic gains.

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Immersion programs are a form of bilingual education whereby children are taught all or most of their subjects in a language other than their mother tongue during some part of their schooling. Within the Canadian context this model usually refers to those schools which use French as the medium of instruction for native English speaking children (Lambert and Tucker, 1972). There are presently a number of different immersion programs operating across Canada. The basic differences between these programs are (1) the grade level at which the immersion bath occurs, (2) the intensity of the immersion program and (3) the duration of the immersion period (Edwards and Smith, 1976; Genesee, 1979; Swain and Barik, 1976; Swain and Lapkin, 1977; etc.).

Three such programs have been instituted by the Protestant School Board of Greater Montreal: an early immersion program starting in kindergarten, a one-year late immersion program (Grade 7 Immersion) and a two-year late immersion program (Grade 7/8 or Cycle I Immersion) both commencing in grade 7, (for a brief description of these programs, see below). Both early and late immersion programs have been extensively assessed since their inception (Genesee, Polich and Stanley, 1977; Genesee and Stefanovic, Note 1; Genesee, Morin and Allister, Note 2; Polich, Note 3; etc.) and comparative evaluations of the three types of programs have been carried out at each grade level (Adiv, Note 4; Adiv and Morcos, Note 5; Genesee and Leblanc, Note 6; Genesee and Morcos, Note 7). The most noteworthy findings that emerged from these studies were (1) the students from the three immersion programs scored significantly

higher than the students receiving the regular 50 minutes a day of French language instruction. (2) At the higher grade levels, the Early Immersion and Cycle I Immersion students reached native-like competence in comprehension but not in production. (3) The Grade 7 Immersion students scored consistently lower than the Early Immersion and Cycle I Immersion students, although the differences were not always statistically significant. Between the Early Immersion students and the Cycle I Immersion students, there were practically no significant differences, but there was a tendency for the Cycle I Immersion students to score higher than the Early Immersion students.

The purpose of the present study is to assess the development of French language skills in the different immersion programs across the five grade levels and to see whether the immersion students' performance in French comes closer to that of native speakers as students progress from grade 7 through grade 11. In interpreting the findings of this report it must, however, be borne in mind that because of alternative course offerings and flexible scheduling procedures, high school students do not proceed from grade to grade within the same class group. Hence, although the study was carried out over a number of years, a cross-sectional approach will be used in the statistical analysis of the data.

The Programs

1) Early Immersion. In this program the intensive immersion period lasts from kindergarten through grade 2. During those three years, prac-

tically all instruction is in French. In grade 3, English Language Arts are introduced and from grade 4 through grade 6 the program becomes a bilingual one with 60% of all instruction given in English and only 40% in French.

2) One-year Late Immersion. In this program, the intensive immersion period starts at the beginning of secondary school, i.e., in grade 7. During that year, the entire curriculum, except for English Language Arts, is taught in French.

3) Two-year Late Immersion. This program also starts in grade 7. However, here the intensive immersion period lasts two years (grades 7 and 8). Once again, the entire curriculum, except for English Language Arts, is taught in French, during this two-year period.

Each of these programs is followed by special post-immersion courses consisting, at each grade level, of one French Language Arts course and one other subject course, such as History or Geography, taught in French. In grades 9 and 10 both courses are compulsory, whereas in grade 11 only one course is compulsory and the other is optional.

Method

The Samples

At each grade level, the following groups of students participated in the evaluations: (1) a group of Early Immersion students, (2) a group of Cycle I Immersion students, (3) a group of Grade 7 Immersion students

and (4) a group of francophone students who served as controls.

In grades 7 and 8, the Grade 7 Immersion groups consisted of two sub-groups: a "centre" group and a "wing" group. The students in the "centre" groups had taken their one-year late immersion program in a school devoted entirely to this immersion program. The students in the "wing" groups had followed the same program as the "centre" students, but had attended a school that contained both immersion classes and regular English medium classes. Initially, "wing" and "centre" groups had been tested separately. However, in the present study, the test results obtained for these two sub-groups were collapsed in order to bring the groupings in line with those in grades 9, 10 and 11 where the distinction between "wing" and "centre" students could no longer be maintained.

It should also be noted that the Cycle I Immersion students were not evaluated in grade 7 since that year of the program is identical to the one-year late Immersion program at that grade level.

A summary of the sample sizes according to program and grade level is presented in Table 1. The samples were drawn from middle class neighbourhoods and none of the students in the immersion samples spoke French as their native tongue. Moreover, non-francophone students with a French-speaking parent were excluded from the study.

In order to ensure that differences in French performance were not attributable to differences in intellectual capacity, the students in grades 9, 10 and 11 were administered a test of mental ability. In the case of grades 7 and 8, students were compared on basis of available IQ information.

In all cases, both immersion and francophone control students were found to be in the "average" to "above average" range of mental ability. Thus, it was felt that the various groups included in this study could be considered comparable in terms of intellectual capacity.

The Test Battery

French proficiency was assessed on four different types of tests: (1) a listening comprehension test, (2) a cloze test, (3) a composition and (4) an oral production test. In order to ensure that the test content was appropriate for the different age groups tested, alternative forms of these tests were administered in different grades. Each type of test will be briefly described below.

(1) The Listening Comprehension Test. This test consists of a number of tape-recorded passages. Each passage is followed by a number of multiple choice questions, 20 in total. The questions are also presented orally. Three different forms of this test were used. Form I of the test was developed by the Research Department of the P.S.B.G.M. and forms II and III were obtained from the Ontario Institute for Studies in Education. Form I was administered in grades 7 and 8, Form II was administered in grade 9 and Form III was administered in grades 10 and 11.

(2) The Cloze Test. The cloze test consists of one or more passages from which every nth word has been deleted. The student must complete the passage by supplying replacements for the deleted items. The opening sentence or two are left intact to provide the student with a story line.

This test was not administered to grade 9 students and so only two forms of the test were used. Form I, which was administered to grades 7 and 8, was developed by the Research Department of the P.S.B.G.M. Form II was obtained from the Ontario Institute for Studies in Education and was administered to grades 10 and 11.

The tests were scored in two ways: exact word replacements and contextually acceptable replacements; however, only the latter scores will be reported here since it as been argued that such scores are better indicators of second language proficiency (Alderson, 1979). The evaluation of the contextually acceptable replacements was based on the independent judgment of two francophone judges. The judges' ratings were combined to form a single score for each student.

(3) The Composition. The students were asked to write a composition of 75 to 100 words, based on one of five topics. Each composition was assigned a global rating based on the independent judgment of two francophone raters. The rating scale used ranged from 5 (superior) to 1 (very poor). Both judges' ratings were combined to form a single score for each student. This test was not administered to grade 7 students.

(4) The Oral Production Test. At each grade level, a sub-sample of students from each group was interviewed individually by a French-speaking interviewer. The latter engaged the student in a conversation by asking him or her questions related to school, sports, his or her activities during vacations and other topics of interest to the student. The interview lasted approximately 10 minutes. All interviews were tape recorded for later analysis.

Each student's speech sample was later evaluated by two francophone raters, working independently, on five different dimensions: comprehension, pronunciation, grammar, vocabulary and communication. The communication dimension was intended to assess the student's willingness to speak French and his or her fluency while doing so. The ratings ranged from a maximum of 5, indicating excellent or native-like skill, to a minimum of 1, indicating very poor skill. The raters were trained to use the rating system; however, they were not trained in linguistics. It was felt desirable to employ such native French speakers since in most day-to-day situations, second language speakers are evaluated by untrained people. The evaluation of both raters were combined to form an average rating fo each dimension. The ratings from the five dimensions were then combined to yield a single oral production score for each student. Different sets of raters were used to evaluate the speech samples at each grade level.

Results

Two statistical procedures were used in the analysis of the results. First, the raw scores obtained from the tests were transformed into standard scores. This procedure enables the researcher to compare student performance on a series of different tests. A standard score is a deviation from the mean divided by the standard deviation: $Z = (X - \overline{X})/s$. Thus the mean is the origin and the standard deviation is the unit of measurement. Since standard scores involve the use of $\pm$ signs and seldom exceed the limits of

-3 and +3, it is not uncommon to select an arbitrary origin and standard deviation. In the present analyses, the origin was changed to 50 and the standard deviation to 15. The scores thus obtained will be referred to as z' scores.

Second, in order to assess significant differences between the four groups (Early Immersion, Cycle I Immersion, Grade 7 Immersion and French controls) at each grade level, the results of each test were analyzed by means of a one-way analysis of variance procedure. Wherever the between-group differences were significant, a Newman-Keuls Test of Multiple Comparisons was used to indicate which groups differed significantly from one another. For reasons discussed above, separate analyses of variance were performed at each grade level. The test results (in standard scores) and the results of the statistical analyses are summarized in Tables 2, 3, 4 and 5.

In addition to the statistical procedures outlined above, differences between the French control students and the immersion groups were calculated by using the scores of the French control group as a baseline at each grade level. Thus, each group's performance was assessed as deviating z" scores from that of the French control group at the same grade level. The results of this analysis are summarized in Table 6. All the results will now be briefly discussed.

(1) The Listening Comprehension Test

The results of the listening comprehension test indicate that the French controls (grade 7, z'=.58, grade 8, z'=.58, grade 9, z'=.57, grade 10, z'=.60,

grade 11, z'= 58) scored significantly higher than the Grade 7 Immersion group (grade 7, z' = 44; grade 8, z' = 44; grade 9, z' = 45; grade 10, z' = 42; grade 11, z' = 41) and the Cycle I Immersion group (grade 8, z'= 52; grade 9, z'= 49; grade 10, z'= 50; grade 11, z'= 50). The French control group also scored significantly higher than the Early Immersion group in grade 7 (French control, z'= 58; Early Immersion, z'= 54), in grade 8 (French control, z'= 58, Early Immersion, z'= 50) and in grade 10 (French control, z'= 60, Early Immersion, z'= 51). Among the three anglophone groups, the Grade 7 Immersion group scored consistently lower than the Early Immersion and Cycle I Immersion groups. Between the latter two groups there were no significant differences except in grade 9 where the Early Immersion students (z'= 55) scored significantly higher than the Cycle I students (z'= 49). When the French control students' scores are used as a baseline, (Table 6A) the results show that the Early Immersion students' performance was closest to that of the French controls at most grade levels. Moreover, relative to the French control students, the Early Immersion students' performance improved from grade 7 (z"= 4) to grade 11 (z"= 3). By comparison, the performance of the Cycle I Immersion students (grade 8, z"= 6; grade 11, z"= 8) and that of the Grade 7 Immersion students (grade 7, z"= 14; grade 11, z"= 17) indicates regression and a consequent increase in the gap between the immersion students and the native speakers.

(2) <u>The Cloze Test</u>

The results of the cloze test indicate that the French control group

(grade 7, z' = 58; grade 8, z' = 58; grade 10, z' = 60; grade 11, z' = 61) scored significantly higher than the three anglophone groups at all grade levels tested. (As noted above, this test was not administered in grade 9). Furthermore, except in grade 10, the Grade 7 Immersion group (grade 7, z' = 44; grade 8, z' = 42; grade 10, z' = 46; grade 11, z' = 41) scored significantly lower than the Early Immersion group (grade 7, z' = 54; grade 8, z' = 53; grade 10, z' = 48; grade 11, z' = 49) and the Cycle I Immersion group (grade 8, z' = 54; grade 10, z' = 50;grade 11, z' = 53). There were no significant differences between the latter two groups. When the French control students' scores are used as a baseline (Table 6B), the results reveal that on this test the performance in all three programs regressed from grade 7 (Early Immersion, z" = 4; Cycle I Immersion [gr. 8], z" = 4; Grade 7 Immersion, z" = 14) to grade 11 (Early Immersion, z" = 12; Cycle I Immersion, z" = 8; Grade 7 Immersion, z" = 20).

(3) The Composition

The results of the ratings of the composition indicate that the French control group (grade 8, z' = 59; grade 9, z' = 67; grade 10, z' = 61; grade 11, z' = 60) was rated significantly higher than the three anglophone groups at all grade levels (as noted above, this test was not administered in grade 7). Amongst the three immersion groups, the Grade 7 Immersion group was rated significantly lower than the Early Immersion group in grade 8 (Grade 7 Immersion, z' = 44; Early Immersion, z' = 50), in grade 9 (Grade 7 Immersion, z' = 42; Early Immersion, z' = 47) and in grade 11 (Grade 7 Immersion = 43, Early Immersion = 49). The Grade 7 Immersion group was also rated significantly

lower than the Cycle I Immersion group in grade 8 (Cycle I Immersion = 51), in grade 9 (Cycle I Immersion = 46) and in grade 10 (Cycle I Immersion = 52). Finally, the Early Immersion group was rated significantly lower than the Cycle I Immersion group in grade 10 (Early Immersion = 48, Cycle I Immersion = 52). There were no other significant differences between these two groups. When the French control students' scores are used as a baseline (Table 6C) the results reveal once again a widening of the gap between the native speakers and the immersion students in all three programs (Early Immersion, grade 8, z" = 9; grade 11, z" = 11; Cycle I Immersion, grade 8, z" = 8; grade 11, z" = 13; Grade 7 Immersion, grade 8, z" = 15; grade 11, z" = 17). It should be noted that the distribution across the grades shows great variations, the difference with the francophones being most pronounced in grade 9 (Early Immersion, z" = 21; Cycle I Immersion, z" = 21; Grade 7 Immersion, z" = 25).

(4) The Oral Production Test

The results of the ratings of the oral production test indicate that the French control group (grade 7, z' = 70, grade 8, z' = 64, grade 9, z' = 69, grade 10, z' = 70, grade 11, z' = 68) was rated significantly higher than the three anglophone groups at all five grade levels. Among the latter three groups, the Cycle I Immersion group was rated significantly higher than the Grade 7 Immersion group in grade 9 (Cycle I Immersion, z' = 51; Grade 7 Immersion, z' = 42), in grade 10 (Cycle I Immersion, z' = 52; Grade 7 Immersion, z' = 40) and in grade 11 (Cycle I Immersion, z' = 55; Grade 7 Immersion, z' = 41).

Finally in grade 11, there was also a significant difference between the Cycle I Immersion group and the Early Immersion group (Cycle I Immersion, z'= 55, Early Immersion, z'= 47). When the scores of the French control students are used as a baseline (Table 60), the results show that in the Cycle I Immersion program there was maintenance across the grades (grade 8, z"= 13; grade 11,z"=13), whereas in the Early Immersion program and in the Grade 7 Immersion program there was again regression from grade 7 (Early Immersion, z"= 17, Grade 7 Immersion, z"= 25) to grade 11 (Early Immersion, z"= 21, Grade 7 Immersion, z"= 27).

Summary and discussion

The findings of this study can be summarized as follows:

(1) The performance of the students in the three immersion programs was significantly lower than that of the French controls on all tests and at all grade levels, except for the listening comprehension test where there was no significant difference between the Early Immersion group and the French control group in grades 9 and 11.

(2) The performance of the Grade 7 Immersion group was significantly lower than those of the Early Immersion and Cycle I Immersion groups on all tests and at all grade levels except in the following cases: (a) There was no significant difference between the Grade 7 Immersion and both the Early Immersion and the Cycle I Immersion groups on the cloze test in grade 10 and on the oral production test in grade 8; (b) There were no significant

differences between the Grade 7 Immersion group and the Early Immersion group on the composition ratings in grade 10 and on the oral production test in grade 11. (c) There was no significant difference between the Grade 7 Immersion group and the Cycle I Immersion group on the composition ratings in grade 11.

(3) There were no significant differences between the Early Immersion group and the Cycle I Immersion group except on (a) the listening comprehension test in grade 9, (b) the composition ratings in grade 10 and (c) the oral production test in grade 11.

(4) The difference between the performance of the students in the Cycle I Immersion program and that of the French controls remained steady across the grades on the oral production test. However, on the other three tests, the gap between these two groups increased across the grades.

(5) The difference between the performance of the students in the Early Immersion program and that of the French controls decreased across the grades on the listening comprehension test. However, on the three other tests, the difference between these two groups increased across the grades.

(6) The difference between the performance of the students in the Grade 7 Immersion program and that of the French controls increased on all four tests across the grades.

Two major findings emerge from this study. First, native-like competence in French was achieved only in one program, namely Early Immersion and only in one skill, listening comprehension. Second, except for the above case, there was no rapprochement or "narrowing of the gap" between the performance

of immersion students and that of the francophone students. In fact, the comparison of the numerical values of the standard scores in grade 7 to those in grade 11 suggests that in most cases there was regression in the level of performance.

In interpreting these results I would like to restrict the discussion primarily to the listening comprehension test and to the cloze test. There are two reasons for doing so. First, both of these tests are objectively scored tests and differences in performance from grade to grade are thus not influenced by the fact that the tests were evaluated by different people at each grade level. Second, both tests were graded with regard to their level of difficulty. Thus, maintenance of the same level of performance on these tests actually requires an increase in French proficiency. Such a linguistic development was shown in the performance of the French control students on these tests. On the other hand, in the case of the immersion students such gains in French proficiency were not evidenced. This is not to say that here there was no linguistic growth at all. In fact, two recent studies (Adiv and Walsh, Notes 8 and 9) indicate that the French language skills of immersion students do improve during the course of a school year. It would seem, however, that such linguistic gains are insufficient to even maintain the distance between immersion students and native speakers constant over a number of years.

The results of this study also indicate that differences between immersion students and native speakers were most pronounced in the case of the Grade 7 Immersion program. This finding is not surprising since the students in this program scored consistently lower on all tests than the students in the Early Immersion and Cycle I Immersion programs. Interestingly, the differ-

ences between the performance of the Grade 7 Immersion students and that of the students from the other two immersion groups remained fairly constant across the grades except in the case of the cloze test in grade 10 where the performance of the Grade 7 Immersion group came close to that of the Early Immersion group. This development is different from that found by Genesee and Morcos (Note 7) who noted that differences between Early Immersion students and Cycle I Immersion students seem to decrease across the grades. It must, however, be noted that their findings pertain only to grades 7, 8 and 9.

Finally, this study seems to confirm previous findings regarding the development of French proficiency in Early Immersion and Cycle I Immersion programs. Here the present study shows that there was practically no difference in the level of performance of the grade 8 students in these two programs. However, differences between the students in the Early Immersion program and students in the Cycle I Immersion program tended to increase in each successive grade, except in the case of the composition results. Moreover, both on the cloze test and on the oral production test, the performance of the Cycle I Immersion students was consistently superior to that of the Early Immersion students. Adiv and Morcos (Note 5) have suggested that one of the reasons for this development may be that the recency of the immersion experience in grades 7 and 8 influences the performance of the Cycle I Immersion students even after the intense immersion period is over. In other words, the post-immersion program may be more stimulating for the Cycle I Immersion students than for the Early Immersion students because the latter

have by now been in this type of program for a number of years. It is also possible that the Cycle I Immersion students were a more strongly motivated group since the decision to join the program was probably taken jointly by the students and their parents. According to Cummins (1978), a high degree of motivation is, in fact, a necessity for late immersion students if they are to cope with the situation of having to learn suddenly very abstract content in a second language.

The notion that length of stay in a program does not necessarily promote greater linguistic development may also help to explain the absence of noticeable gains in French proficiency revealed in this study. Some researchers (Walberg, Hase and Rasher, 1978) have recently shown that, even in a natural second language environment, the rate at which that language is learned diminishes as a function of time. It seems only logical that this effect is even more pronounced when the time of exposure to the second language is drastically reduced as is the case in the post-immersion programs. In addition, Genesee's studies (Genesee and Leblanc, Note 6; Genesee and Morcos, Note 7) have repeatedly pointed out that the post immersion courses may not promote adequate language growth because these courses function as discrete units which bear little systematic relationship to the students' actual ability to use the language. Adiv and Walsh (Note 10) have suggested that the post immersion programs may be ineffective because the heavily loaded content courses they offer may not meet the linguistic needs of the students. Under these conditions, immersion students may continue to learn new curriculum material through the second language without necessarily improving their competence in that language. It was with this question in mind that one of the above-mentioned studies (Adiv and Walsh,

Note 8) was undertaken. Although the results of this study do show linguistic gains over the course of a year, it must be remembered that these gains were recorded while the students were still attending the various content courses examined in that study. Further investigation is needed to assess the long-term effect of such content courses on the development of French proficiency. At the same time, it seems appropriate to reiterate previous suggestions (Adiv, Note 11) to promote greater integration between language courses and content courses so as to provide students with opportunities to apply newly acquired linguistic knowledge in a meaningfull context.

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Table I

Sample Sizes According to Program and Grade

	Early Immersion	Cycle I Immersion	Grade 7 Immersion	French Controls
Grade 7	38	-	94[a]	50
Grade 8	41	42	96[a]	59
Grade 9	35	56	43	26
Grade 10	38	35	32	21
Grade 11	26	21	35	24

[a]This group includes one group of 'center' students and one group of 'wing' students

Results of Listening Comprehension Test[a]

	Early Immersion	Cycle I Immersion	Grade 7 Immersion	French controls	F ratio	df
Grade 7	54	N.A.	41	58	17.07***	2,179
Grade 8	50	52	44	58	42.85***	3,206
Grade 9	55	49	45	57	20.73***	3,156
Grade 10	51	50	42	60	19.24***	3,92
Grade 11	55	50	41	58	25.51***	3,27

*** $p < .001$

N.A. not administered

[a]Scores joined by a line differ significantly from one another.

Table 3

Results of Cloze Test[a]

	Early Immersion	Cycle I Immersion	Grade 7 Immersion	French controls	F ratio	df
Grade 7	54	N.A.	44	58	32.89***	2,178
Grade 8	53	54	42	58	53.26***	3,234
Grade 9	N.A.	N.A.	N.A.	N.A.		
Grade 10	48	50	46	60	16.21***	3,121
Grade 11	49	53	41	61	33.38***	3,102

*** $p < .001$

N.A. not administered

[a]Scores joined by a line differ significantly from one another

Table 4

Results of Composition Test[a]

	Early Immersion	Cycle I Immersion	Grade 7 Immersion	French controls	F ratio	df
Grade 7	N.A.	N.A.	N.A.	N.A.		
Grade 8	50	51	44	59	52.90***	3,227
Grade 9	47	46	42	67	57.96***	3,111
Grade 10	48	52	45	61	21.43***	3,102
Grade 11	49	47	43	60	26.16***	3,86

*** $p < .001$

N.A. not administered

[a]Scores joined by a line differ significantly from one another

Results of Oral Production Test[a]

	Early Immersion	Cycle I Immersion	Grade 7 Immersion	French controls	F ratio	df
Grade 7	53	N.A.	45	70	38.83***	2,116
Grade 8	51	51	49	64	16.95***	3,159
Grade 9	47	51	42	69	42.93***	3,89
Grade 10	47	52	40	70	29.76***	3,59
Grade 11	47	55	41	68	30.93***	3,52

*** $p < .001$

N.A. not administered

[a]Scores joined by a line differ significantly from one another

Table 6

Differences Between Standard Scores
of Immersion groups and of French Controls

(A) Listening Comprehension Test

	Early Immersion	Cycle I Immersion	Grade 7 Immersion
Grade 7	4	-	14
Grade 8	8	6	14
Grade 9	2	8	12
Grade 10	9	10	18
Grade 11	3	8	17

(B) Cloze Test

	Early Immersion	Cycle I Immersion	Grade 7 Immersion
Grade 7	4	-	14
Grade 8	5	4	16
Grade 9	-	-	-
Grade 10	12	10	14
Grade 11	12	8	20

Table 6 (cont'd)

Differences between Standard Scores
of Immersion groups and of French Controls

(C) Composition

	Early Immersion	Cycle I Immersion	Grade 7 Immersion
Grade 7	-	-	-
Grade 8	9	8	15
Grade 9	21	21	25
Grade 10	13	9	16
Grade 11	11	13	17

(D) Oral Production

	Early Immersion	Cycle I Immersion	Grade 7 Immersion
Grade 7	17	-	25
Grade 8	13	13	15
Grade 9	22	18	25
Grade 10	23	18	30
Grade 11	21	13	27